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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/588,948	08/10/2006	Heiko Urtel	12810-00340-US1	2462
30678 7590 04/02/2009 CONNOLLY BOVE LODGE & HUTZ LLP 1875 EYE STREET, N.W. SUITE 1100 WASHINGTON, DC 20006				
EXAMINER				
NGUYEN, COLETTE B				
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1793				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/588,948

**Applicant(s)**

URTEL ET AL.

**Examiner**

COLETTE NGUYEN

**Art Unit**

1793

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 January 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5 and 7-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date \_\_\_\_\_

## **DETAILED ACTION**

### ***Status of the application***

*Claim 6 canceled. Claims 1,7,11,13,15,16,18,19,20 amended.*

*Claims 1-5 and 7-21 are presented for examination*

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1, 2, 8,10, 12,13, 14,18 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim1,5,6,9,12,13,14,15,16,17 of U.S. Patent No. 7,507,866. Although the conflicting claims are not identical, they are not patentably distinct from each other because the

claimed invention is encompassed by the method as claimed in U.S. Patent No. 7,507,866.

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

3. **Claim 1-5 and 7-21** are rejected under 35 U.S.C. 102(e) as being anticipated by Fischer et al. (WO2004/022522)

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

5. Regarding claim 1 and 18. Fischer discloses a process for preparing optically active 2-amino, 2-chloro or 2-alkoxyl 1 alcohols by catalytically hydrogenating corresponding carboxylic acids or their acid derivatives in the presence of catalysts comprising palladium (pd), platinum (Pt) or Rhenium (Re) with at least one further element having an atomic number of from 23 to 82, unsupported or supported with preference to silver (Ag) and tin (Sn), such as platinum/rhenium/tin. (Col 3, Col4). The hydrogenation reaction of these optical active starting materials is hydrogenated in the presence of an acid. The temperature range is from 30-140C and pressure range is from 5-300 bar.
6. Regarding claim 2. Fischer discloses Pt, Pd and Re (Col3, In 58)
7. Regarding claim 3,4,5 and 15,16,17 and 21. Fischer discloses additionally the catalyst comprise at least one further element having an atomic number from 23-82 of the periodic table (col3, In 60). Sn, Ge, Cr, Mo, W and Pt are belonged to 23-82 atomic number of the periodic table.
8. Regarding claim 7. phenylalanine, valine are some of the hydrogenation results (Col3).

9. Regarding claim 8,9,10 and 19. Fischer discloses a support catalyst of 1 to 50% by weight of the at least one further element and suitable support materials are zeolites (Al<sub>2</sub>O<sub>3</sub>) Silicon dioxides, titanium dioxides and zirconium dioxides.(Col4, In14-25)
- 10 Regarding claim 12,13 see claim 1 discussion
11. Regarding claim 14, and 20 Fischer discloses organic or inorganic acid such as HCl, or acetic acid.(Col 4, In 46-50)

***Claim Rejections - 35 USC § 103***

- 12 The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

14. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under

37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

15. **Claims 1-5 and 7-21** are rejected under 35 U.S.C. 103 (a) as being unpatentable over Kitson (4,985,572) in views of Antons (5,731,479).

16. Regarding claim 1. Kitson teaches a catalyzed hydrogenation of carboxylic acids and their anhydrides, saturated or unsaturated, mono, di or polybasic acids and their anhydride derivative of C<sub>12</sub> to C<sub>12</sub> to corresponding alcohols and/or esters in the presence of a catalyst of a composition comprising an alloy of at least one noble metal of group VIII and at least one metal capable of alloying with the aforesaid group VIII noble metal (Col 2 ln 10-30), mainly, palladium (Pd), platinum (Pt), rhodium (Rh), ruthenium (Ru), osmium and iridium (Ir). And Metals capable of alloying with palladium including, silver, gold, copper, nickel rhodium, tin cobalt, aluminum, manganese, gallium, iron, chromium and platinum. (Col2, ln 40-50). Despite that he does specify that all the derivatives of the carboxylic (optical carboxylic included) can be used, optical carboxylic is not mentioned. Antons, on the other hand, as he discloses production process of optically active alcohols and ester with optically active carboxylic acid, he clearly mentions *"the problem of using ruthenium containing catalysts as the reduction demands relatively high temperatures and pressures which are not suitable because racemization and degradation reactions take place"* (Col1, ln 23-30). It would have been obvious to one of ordinary skill in the art at the time of the invention to include the optically active

alcohols and esters of Anton with the teachings of Kitson of a catalyst of an alloy of noble metal of group VIII especially with Pt, Pl, Rh and Ir and avoid using Ruthenium (as mentioned by Antons and as shown in all the catalysts made in tables 1-8 and Fig 1-4 and col 6, ln 54-65) of Kitson where no ruthenium is used) to produce optical active alcohols and esters to be used in cosmetics and pharmaceuticals where the demands and profits are high. As for the claim of stereocenter in the  $\alpha$  or  $\beta$  position, both Kitson and Anton products exhibit these stereocenter )(Kitson, col6, ln38) therefore it would be obvious the carboxylic acids used as starting materials have these stereo center as well.

17. Regarding claim 2. As regards the catalyst composition, Kitson teaches the noble metals selected from the group VIII of the periodic table which comprises palladium (Pd), platinum (Pt), iridium(Ir), rhodium(Rh). (Col 2, ln40-43).The same components as claimed.

18. Regarding claims 3, 4 and 15, 16 . Kitson also teaches another element of the catalyst to comprise rhenium, tungsten or molybdenum. Kitson discloses tin (Sn) as one of the metal that can be alloy with noble metals to form the catalysts. It would have been obvious for one of ordinary skill in the art at the time of the invention to optimize the composition of the catalysts with different combination of metals as listed by Kitson and tin would be a preferred choice as it is non corrosive as Platinum.

19. Regarding claims 5, 17 and 21. Platinum (Pt) and Tin (Sn) are among the catalyst composition that Kitson teaches specifically. (Col. 2)



20. Regarding claim 7. Kitson teaches hydrogenation process of some examples products such as gamma butyrolactone, tetrahydrofuran, etc...Among the products of the instant claims.

21. Regarding claim 8. Kitson also teaches a supported catalyst. (col. 2, line 62)

22. Regarding claim 9. Kitson teaches a composition of 0.1 to 20% by weight as noble metal, compared to 0.01 to 30% as claimed, and from 1-10% by weight of component (B), comparing to 0.01-50% as claimed. The percent weight of the catalyst overlaps therefore anticipated.

23. Regarding claims 10 and 19. Kitson teaches suitable supports including high surface area graphitized (HSAG) carbons, graphites, carbons, silicas/aluminas. Same support materials as claimed, therefore anticipated.

24. Regarding claim 11. Antons teaches alcohols as reducing agent (Col.2, line 60).Kitson teaches any suitable solvent included water (Col5, ln 1-5)

25. Regarding claim 12. Antons teaches a pressure range of 50-220 bars. vs. 100-300 bar as claimed (Col.2 line 66).

26. Regarding claim 13. Antons teaches a temperature range of 50-150C vs. 30-180C as claimed. (Col.2, line 66).

27. Regarding claim 14 and 20. Kitson teaches a requirement to introduce an acidic function into the catalyst to promote "in situ" hydrogenation results. (col.6, line 20).

28. Regarding claim 18. See discussion of claim 1.

### ***Response to Arguments***

As the independent claims 1 and 18 have been amended. All the claims are now rejected on new grounds.

Applicant argues that "Kitson does not teach the process for the preparation of optically active alcohols". This argument is not persuasive as Kitson clearly points out as well as it is known in the art that the hydrogenation process of any kind of carboxylic acids and their anhydrides will produce corresponding alcohol and/or carboxylic acid ester. In some of the illustrated examples, the final alcohol and esters are either gamma-butyrolactone or 1-4 butanediol and tetrahydrofuran which are optically active alcohols therefore the corresponding starting carboxylic acids used are optically active ones. For the teachings of catalysts, clearly Kitson and Anton do not recommend to use ruthenium as discussed in claim 1 and 18. All the arguments that the applicant mentions have been pointed by Anton and the catalyst of Pt/Sn on carbon support has been disclosed by Anton.

### ***Conclusion***

29. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US2003/0114719

30. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to COLETTE NGUYEN whose telephone number is (571)270-5831. The examiner can normally be reached on Monday-Thursday, 10:00-4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curt Mayes can be reached on (571)-272-1234. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/COLETTE NGUYEN/  
Examiner, Art Unit 1793

CN  
March 29, 2009

/Melvin Curtis Mayes/  
Supervisory Patent Examiner, Art Unit 1793